

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-22 are presently active in this case, Claims 1, 5, 11-12, and 19 having been amended by the present amendment.

In the outstanding Official Action, Claim 19 was rejected under 35 U.S.C. §102(b) as being anticipated by Specht (USP 4,805,123); Claims 1-4, 8-11, 16-18 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Specht in view of Alumot (USP 5,699,447); and Claims 20-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Specht in view of official notice (MPEP 2144.03). However, Claims 5-7 and 12-15 were objected to as being dependent upon a rejected base claim, but were otherwise indicated as including allowable subject matter if rewritten in independent form.

Applicants acknowledge with appreciation the indication of allowable subject matter. In light of this indication, features stated in the allowable claims have been added to the independent claims and the independent claims thereby clarified to more clearly patentably define over the cited prior art.

In particular, Claim 1 has been amended to clarify that the repeated pattern area detector --detects whether candidates for the plurality of repeated pattern areas exist in the second detected pattern data by performing rough search of the second detected pattern data, and ... measures area sizes of the candidates if the candidates exist--, consistent with corresponding language deleted from allowable Claim 5 and consistent with Applicants' disclosure that a repeated pattern area detector executes steps S3 to S5 of FIG. 5 (see the specification, page 14, line 10 to page 15, line 21). Claim 5 has been amended to delete

therefrom the functional features added to amended Claim 1, and to add further minor amendment.

Claim 11 has been amended to include the feature stated in allowable Claim 12 in regard to the functionality of the repeated pattern area detector “which ... detects whether candidates for the plurality of repeated pattern areas exist in the design pattern data by performing rough search of the second detected pattern data, and which measures area sizes of the candidates if the candidates exist--”, consistent with Applicants’ disclosure that a repeated pattern area detector executes steps S3 to S5 of FIG. 5 (see the specification, page 14, line 10 to page 15, line 21). Claim 12 has been amended to delete therefrom the functional features added to amended Claim 11.

Claim 19 has been amended to better clarify the content of analysis based on the specification, page 22, lines 13 to 26.

No new matter has been added.

Turning now to the rejection of Claim 19 under 35 U.S.C. §102 as being anticipated by Specht, it is first noted that the repeated area detector recited in Claim 19 analyzes layout information on design pattern data, including as to whether there exist patterns from the same file, thereby detecting a repeated pattern. The outstanding Office Action relies on Specht as disclosing a repeated area detector, reasoning that in Specht, the pattern areas of two dies are compared by die-to-die inspection, and therefore Specht discloses the repeated area detector.

However, as stated in amended Claim 19, a repeated pattern included in the same file is detected, which differs from the invention of Specht in which information is acquired from two dies. Therefore, Applicants respectfully submit that Specht fails to teach this feature of amended Claim 19 and that Claim 19 is therefore not anticipated by Specht. Accordingly,

withdrawal of the rejection of Claim 19 is believed to be in order and is respectfully requested.

Turning now to the rejections of Claims 1 and 11 under 35 U.S.C. §103 as being unpatentable over Specht in view of Alumot, Applicants first note that as disclosed in Applicants' application, for example steps S3 to S5 of FIG. 5, 7 or 9, the repeated area detector acquires a full-mask image using an optical system of a low magnification or at low resolution, performs rough searching (S3), detects whether there is a repeated area candidate (S4), and measures the size of the repeated area (S5).

In contradistinction, in Specht, the optical images of two dies are observed using individual optical systems to perform die-to-die inspection. Further, Alumot discloses a two-stage inspection method and apparatus wherein firstly, the entire wafer is inspected to detect a portion that may include defects at a high probability, and then the detected portion is inspected in detail.

Neither Specht nor Alumot discloses or suggests the claimed invention, including a repeated pattern area detector as stated as follows in amended Claim 1:

...a repeated pattern area detector which detects whether candidates for the plurality of repeated pattern areas exist in the second detected pattern data by performing rough search of the second detected pattern data, and which measures area sizes of the candidates if the candidates exist; ...

or a repeated pattern area detector as stated as follows in amended Claim 11:

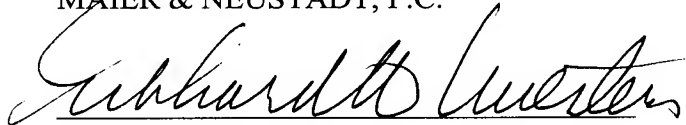
...a repeated pattern area detector which generates image data of an entire region of the pattern from the design pattern data with a pixel size corresponding to a first optical magnification lower than an optical magnification of the first imaging optics, and detects whether candidates for the plurality of repeated pattern areas exist in the design pattern data by performing rough search of the second detected pattern data, and which measures area sizes of the candidates if the candidates exist; ...

Therefore, it is respectfully submitted that amended Claims 1 and 11 are patentable over the combination of the two references, as are the remaining Claims 2-10 and 12-18 respectively dependent on Claims 1 and 11.

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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